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## Interaction with National and International Library Resources

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## INTERACTION WITH NATIONAL AND INTERNATIONAL LIBRARY RESOURCES

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"In delay there lies no plenty" (Shakespeare).

Looking at the titles of the sessions and the principal papers of this conference, it appears that the emphasis prior to this paper will have been on management of the library as an entity and on management techniques such as quantitative performance assessment, personnel management, user study and education. The basis of this paper, though it must have been at least touched on in earlier sessions, is that the days when a library could operate as an isolated entity are over and that the concept with which we must plan for the 1980's is networking, to use the popular jargon phrase. Of course, there will still be some small libraries which may continue to operate in classic isolation, serving and responding only to the demands of their immediate environment or parent body, but these will be few. In one sense, developed countries can be said to be following the lead of the developing ones; for the latter, because they have to build from virtually nothing in the science and technology fields, are prepared to plan regional rather than national or local resources. Those in developed countries are now having to learn to share work between libraries, at first on a national rather than local basis and then on a regional one. If much of this paper is devoted to the way we may expect the present range of such activities to develop, it is hoped it will also provide a stimulus to IATUL libraries to consider how they may co-operate on a practical basis to ensure the most effective library services for their clients in the end.

Indeed, the Council of Library Resources in its report for 1976 says, "We have long held the view that many of the needs of libraries, and therefore of their users, can best be served through the activities of a national library system composed of co-operating networks of various kinds and drawing upon centralised resources". In considering here the implications of this theme for IATUL members it may be worth quoting again from that same report, "In the last six years, the growth of networks and consortia has accelerated rapidly in response to the initiatives and needs of libraries. This has not, however, been the result of a co-ordinated national effort, nor has official leadership emerged to ensure the achievement of an entirely realistic goal of a flexible confederation of library systems working towards a national bibliographic system." The CLR is speaking only of the scene in the United States of America but even if in some other countries the leadership has emerged, the quoted statement still serves as a useful reminder of what the aim is.

The 1971 UNISIST report stated in its recommendation 7 that, "A strong scientific library system should be recognised as an essential component of scientific information transfer in modern times". It is perhaps in keeping with the problems of the present times that the UN itself (General Assembly Resolution 3507(XXX)) is proposing "the establishment of a network for the exchange of technological information". Now, there are those who regard with no small measure of cynicism attempts, whether by the UN or EEC or other international agency, to achieve progress in building worthwhile systems. But there can be little doubt that they do achieve a political climate in which the growth of

collaborative schemes developed by other organisations flourishes. One feels, therefore, that the present flurry of activity, monitored and assisted by an inter-agency task force, will bear fruit which can be plucked not only by national organisations but also by bodies such as IATUL. It is certainly to be hoped that in the national studies and in those which the UN agencies will be submitting, the important role which technological university libraries can play, both in developed and developing countries, will be given due weight and thus enable those responsible for their funding to give proper priority to the provision of the resources needed to achieve and maintain a fully effective level of service.

For many IATUL libraries it is nothing new to make use of outside services, whether directly or via networks, for the benefit of members of the University or to provide services to the world outside. The Copenhagen conference was concerned with the use of on-line services, whether from ESA in Italy or from Lockheed in the USA, while the one in Zurich dealt with the provision of information services to industry. Our members from Hannover and Delft, to name but two, have long been regarded as supplying national services in respect to scientific and technological literature. So what is happening today and what is important for planning for the 1980's is merely an increase in the tendency to look outwards in terms of both services and operations which has long been a notable characteristic of IATUL members. It is, perhaps, its development to the extent of interdependence which may be new to some.

The sectors we shall be examining are those concerned with catalogues, union lists, circulation control, other forms of housekeeping, inter-lending including photocopy supply, information services, query answering and referral. The tools which make the establishment of interdependent operations feasible are, of course, the computer - and the mini-computer in particular - and the telecommunications networks.

One crucial point to bear in mind is that although the costs of using computers are falling, the same does not seem to be true of telecommunications charges, at least in Europe. Only, therefore, if such charges are but a small part of the whole can changes in them be ignored.

### Cataloguing

Centralised cataloguing services have been available in some countries for a number of years. One has but to think of the Library of Congress Card Service. Such services have helped many libraries reduce the amount of cataloguing each has done. Provided cards were available which matched their own system of cataloguing and provided they could either be ordered with the book or at least received reasonably soon after the book had arrived, they could be modified as necessary to suit local requirements. Thus a central bibliographic service reduced the number of staff required for this task.

However, some libraries have introduced computers into their in-house cataloguing operations, for example the admirable pioneer work at Bochum, and in response the bibliographic services have provided magnetic tape instead of catalogue cards. Later, as on-line operations have developed, it has become possible for several libraries to use the same resources and there have come into existence such centres as the Ohio College Library Centre (OCLC) which can serve a large number of libraries over a large area. We may expect other such services to develop, even if in theory we might all be able to use OCLC. This will be partly because of the high telephone charges and partly because too much centralisation would be professionally and politically unacceptable and, from a systems point of view, highly unstable. The British Library is implementing such a service for the UK (phase one of it goes under the acronym BLAISE to be followed by a more comprehensive service called MERLIN) and Toronto University is designing something similar for use in Canada.

In these systems, participating libraries can draw on the central store of catalogue data, see if it meets their own requirements, add or subtract elements for their own use, store their own set of catalogue records in the system and, if the central store has no record for an item they have acquired, add a complete catalogue record which the main system can use if appropriate. If one goes a stage further and attaches to the system for one's



own use a minicomputer, the centrally stored cataloguing records may be extracted, manipulated and used for a variety of in-house purposes.

It will be obvious that interesting new possibilities are opened up: if participating libraries permit access to each others' records, the equivalent of an effective union list is provided. It does not need printing out, though it may in certain cases prove desirable and effective to do so.

This, very briefly, outlines the technical possibilities which are already here. It is now up to libraries to consider how such services should be developed and used. In those countries which already have them or are already planning to introduce them, the individual librarian has, in some ways, the easier problem for he is dealing with something concrete. He can assess what value such services could have for him in terms of opening up new services, in terms of saving staff effort and in terms of the necessary expenditure. He has, of course, also to assess what effort will be involved, in adapting his present systems to match these of the computerised one, for, although machines can handle a variety of systems, the cost of not conforming can be high.

For example, if the library has a high input of English language publications, can it accept the MARC system and use AACR cataloguing rules with either Dewey Decimal or Library of Congress Classifications? An example of even finer decisions that may have to be taken in deciding to utilise such central systems is illustrated by the problem of transliteration of Cyrillic. In order to make use in the UK of LC produced MARC tapes it has been necessary to adopt the LC system of transliteration in preference to either the British or the ISO system. The reason is that it is not possible to identify positively all the transliterated records in LC MARC, which would be necessary if it were to be planned to transform them into conformity with the ISO standard.

If libraries, in order to make the most cost-effective use of the national and international catalogue entry services, have to adopt the standards used by those services, then it becomes even more important than in the past that students are also taught how to write a reference in their bibliographies according to the same standards. How simple tracing an item will be if in each case the ISBN or ISSN is correctly quoted: and how much more difficult it will be to trace a reference with an error in the only indication of the publication is the ISBN or ISSN. Is training of this sort carried out in most technological universities or in only a few? Would it help librarians to impress on the faculties the need for proper training if IATUL were to specify what is desirable?

The use of centrally stored cataloguing records in on-line mode will pose questions which will have to be resolved. If the catalogue is in the library on cards, in book form, on microfiche or on microfilm, it can be consulted as often as wished with no extra cost and even if it is somewhat out of date at least the record is always accessible. On-line catalogues cost money - CPU costs and telecommunications costs - each time they are used. How sure are we that computer costs will continue to fall and that telecommunications costs will not become unacceptably high? There can be little doubt that if library budgets continue to shrink in real terms, a considerable amount of searching appraisal will take place about how much of the entry need be retrieved and even how much need be stored on-line. Is a very short title "finding" entry sufficient, full bibliographic entries being printed off-line when wanted?

Again, can we risk, even in the next decade, relying entirely on such centrally stored records, OCLC style? What happens if there is a major breakdown in the system, either technical or even due to strike action? Is the library to be without catalogue and if so does it become unusable? Each library contemplating the benefits, and they are many, of using national or international central catalogue records will have to work out the extent to which they maintain their own catalogue in the central facility, whether alternatively they take records from the central store and store them on a local computer - either in their own university or one shared between a co-operating group of university libraries - or whether they print out their catalogue (COM probably). It may be that some combination of these options will be the preferred one so that the great flexibility of on-line working can be underpinned with an annually updated COM catalogue in house.

As if to contradict this, we are experimenting with the transmission of microfiche catalogue records from a remote store to a VDU in the library. So far this is purely a technical experiment. The consequences of success have not been worked out but I suspect it is more likely to be valuable for the transmission of microform documents than for catalogue consultation. However that is by way of a digression.

In those countries which have not yet started serious planning of the introduction of central on-line catalogue facilities, two options seem to be open to librarians who wish to use them. The first is to consider utilising a foreign system (The British Library resources will almost certainly be accessible from EEC countries via EURONET) and the second to create the necessary initiative inside their own country to get a system started. This may seem easier said than done, even in the developed countries, and means of taking initiatives depend entirely on local circumstances. However, if we are talking at this conference about planning for the 1980's, that planning must involve more than deciding how best to struggle along one's existing furrow with ever decreasing finances. Nor should the absence at this present time of computer services or even the capital to acquire them necessarily prevent libraries from exploring the possibilities of a co-operative approach to catalogue records. Of course, in some developing countries the shortage of money can be so acute even in technological universities that, even if suitable terminals were donated, they would not be able to afford the running costs but the same difficulty will apply to the UN's other networks so perhaps a solution is just around the corner.

It can be worth considering local co-operation between a group of libraries so planned that the system can link to the national or international networks. A UK example in the cataloguing sector of such an approach is the SCOLCAP scheme, a computer based collaborative cataloguing venture between a number of Scottish libraries, the design of which is such that interaction with the British Library's BLAISE and MERLIN schemes will be very easy.

Incidentally both developed and developing countries are using the ISBN and the ISSN to save effort and improve records. If systems are computerised, these can be linked to the full catalogue data but whether so linked or not they can make union lists much easier to maintain. In the UK the prime example is that of LASER wherein the holdings of a large number of libraries in the London and South East Region are maintained as ISBN records and a location.

### Circulation control

This leads on naturally to another field of activity in which computer systems can lead to libraries working together, namely circulation control. A recent example from the UK is the SWALCAP system wherein three libraries, Exeter University, Bristol University and University College, Cardiff, each many miles from the other, are using a single computer to handle the circulation records. This is a local collaborative exercise, similar in character if more sophisticated in solution to the library co-operative schemes much in vogue in the UK a few years ago and still serving a valuable if less spectacular role. Local schemes are, strictly speaking, outside the scope of this article but in that they emphasise the value of each library improving its operations by collaborative participation with resources outside its own university they are within its spirit. And if it is worth these libraries joining together, may it not prove worth developing just two or three central resources for this type of operation too?

### Acquisition of new titles

Automation of cataloguing and issue operations, and sharing the load with other bodies, leads naturally to thoughts of other types of housekeeping operation: such as acquisitions. Two aspects here strike us as worthy of at least brief consideration. The first is that systems such as OCLC enable one library considering an acquisition to find out easily whether another library already has it. Obviously this is important only for those items of marginal interest, the need for which might be satisfied by loans. But if the item is newly published no other library will have it and this leads to thoughts of the second aspect,



namely the merits of entering "on order" records in the national bibliographic system. This should create no difficulties but if those libraries which together provide the national coverage want such a facility, those designing the system will need to know early. The bibliographic quality of such records can be high enough for identification purposes if orders are based on CIP data or the National Bibliographies but in reality ISBN's - ISSN's are all that are needed together with a library code.

There is of course the danger that widely available "on-order" files could play havoc with the publishers' trade and stock flow.

### Serials control

The second priority area is serials acquisitions. Mechanisation of this area has been less satisfactory than one would have hoped but it does now look as though the breakthrough is coming so that by the 1980's most big libraries can hope to have this work at least partially handled by computers, even if parts of the operation remain manual. What then is the possibility and benefit, if any, of using central resources to record parts received just as in the catalogue system records of titles received are centrally stored? These "central resources" could either consist of a central computer facility or perhaps dispersed, local (mini?) computers using centrally developed software. If the store is to be kept manageably small for on-line working, there might have to be a limitation to, say, the last 12 months' receipts but even so there could be significant benefits. Apart from the obvious one of being able to refer someone to a library holding a part of a journal missing from one's own stock, there is the effect on the acquisitions unit. If a publisher is late sending out a part of a regular journal, the agent may receive anything up to a 1000 hasteners for that one part. We can hardly be surprised if they are not answered. If on the other hand, when a part is late a check is made against other libraries' receipts and similarly if the agent could have his terminal and link to the central system to check for himself when he gets a hastener whether it is just one copy adrift or a general problem, I am sure a more effective system would result. Indeed, ideally the agent - or anyone else with a terminal - could enter helpful information in the central record such as "publisher on strike". Perhaps for those with long memories of increasing frustration in serials control this may sound Utopian but modern technology makes it feasible and therefore in planning for library effectiveness in the 1980's we should be initiating planning studies of the cost effectiveness of such schemes.

### Inter-library lending

Let us turn now to interlending and photocopy supply. Libraries in the developed world, faced with rising costs and shrinking budgets (in real terms anyway) are coming to accept as inescapable what the libraries of the developing countries have always regarded as the natural state of affairs: namely no library can be self-sufficient in stock. Therefore, as one cancels journal subscriptions the amount of borrowing or obtaining photocopies increases though, as has been pointed out, since this also costs money, there comes a balance point when the cancellation of more journal subscriptions leads to an increase in costs because borrowing is done so frequently. Indeed, I understand that some libraries are having to restrict interlending because it costs them too much. There is probably another balance point when shrinking subscription lists forces up the price of journals. Nevertheless, I think we must still overall consider that the scenario for the 1980's will involve an increase in international interlending or photocopy supply.

The two fundamental interlending systems are well known: first, the central library meeting all or most requests from its own stock or else acting as a switching centre and routing the request to a library able and willing to lend; and second the distributed network in which each library arranges loans directly with any other library in the network, identifying the most likely source by means of published union lists. Other systems are combinations of these two approaches.

There are others more experienced in interlending matters than we are and able to discuss knowledgeably the problems but, looking ahead, it seems to us that these are two aspects which merit thought by IATUL members and possibly an expression of their views

for conveying to the IFLA Office for Interlending.

The aspect of interlending (in which we include photocopy supply) which can concern us as a body is lending across national frontiers. The use of telecommunications already helps to speed many interlending operations by the use of Telex requests. For international requests such as from, say, Japan or Australia to the British Library Lending Division at Boston Spa this almost halves the time. The linking of on-line bibliographic systems, eg. Medline, to a supply centre can lead to an information search being combined with a method of ordering the documents.

With the advent of computer-stored, on-line catalogues, lending requests could be transmitted across international networks quite easily, perhaps with the network deciding which library can best accept the request.

Even before the halcyon (?) days of on-line networks, computer produced microfilm catalogues could ease the interlending problems. One or two key libraries in each country could easily keep copies of the catalogues of other key libraries or those with specialist collections could form a microform version of an "invisible college". As Dr. Sydler has pointed out, in a paper to the IATUL Board, interlending requires some degree of standardisation of charges. This is vitally important for a distributed network because otherwise the library charging the lowest price becomes overloaded with work - though perhaps this would lead immediately to a raising of charges.

Of course, one advantage, among others, of the central library approach is that governments can more easily subsidise this activity in order to help individual libraries (though the limitations of this are obvious and it can never be a substitute for an adequate book purchase grant) and also it provides a possible mechanism for helping developing countries - though there are normally better ways of doing this.

The other topic is access to "difficult" literature. By "difficult" literature I mean such items as theses, semi-official standards and codes of practice of the type not normally available from the national standards offices, and technological trade literature, both catalogues and product leaflets. It is not often at present that requests for such material arise but when they do tracking it down in another country and acquiring a copy can be very difficult. If, in each country, there were at least one IATUL library willing to help another IATUL library, even if only on a referral basis, it would I submit be a very positive step towards international collaboration.

### Information services

Turning now to information networks, these have existed on a national and international basis for many years and most academic libraries have tapped them. The longest established is the invisible college with which we all can and do make contact via the professors known to us. So interaction with information networks is no new concept. More recently there have grown up the national and international networks based on computers linked by telecommunications networks, not always more efficient, not even less idiosyncratic than the invisible college network and certainly more expensive. Pascal, Cigale-Cyclades, Arpanet, ESA-Recon, Lockheed, SDC, Tymshare and Tymnet are now household words among technological libraries and many have experience of using Medline, Chemical Abstracts Condensates, Compendex and other such data bases. It may be oversimplistic to regard these as merely highly sophisticated abstracting journals and the numeric product of data centres as a similarly sophisticated version of the "Rubber" Handbook, but the librarian and documentalist can visualise them in these terms and perhaps similarly assess their effects.

One possible effect is that by the 1980's they will make possible a return to the days when every chemist had in his laboratory a copy of Chemical Abstracts and the "Rubber" Handbook, for the cost of a terminal and its operation will be no more than that of other laboratory apparatus. So the research worker may not need to visit the library so often. Personally, we doubt if this will be the outcome. The most avid users of information from other sources are also the most avid consulters of literature. And even if terminals can



usefully be placed in the laboratories, and means incorporated of ordering the delivery of any document whose reference is retrieved, we still consider that terminals in the libraries will be wanted and will be used and the literature in the library will be used in parallel. What should become possible in the 1980's is that not only will these systems be used for reference and data retrieval as they are at present, but that it will be possible to add to the central record one's own entries. Technical university libraries might add to the records details, including abstracts and indexing terms of doctoral theses and thereby get some revenue to set against the cost of using the services. You will realise that we are taking the concept of the OCLC system for cataloguing, wherein a user library can not only draw on the central record but also add its own records, and suggesting that the on-line information systems should develop a similar facility. We have been told that this idea is unrealistic, but remain unrepentant and believe it, or something very similar, will come.

### Conclusion

The purpose of this paper has been to outline some of the areas of library activity in which it is becoming possible to draw on central facilities provided on a national or international basis. In planning for library effectiveness in the next decade, it is vital for each library to consider the extent to which it could make use of such resources, the new problems that they will create as well as their advantages, and to plan how and to what extent it will make use of them. It is also necessary to consider how these systems could be made even more effective and to initiate steps to convey any new requirements to those able to implement them.

Footnote: The views expressed in this article are the authors' own and are not necessarily held by the British Library.



## DISCUSSION

Mr. J. Ross: I would like to throw in some more specific points slanted from the IATUL membership as I see it, following remarks on the possible future for IATUL. Many of us are now producing COM catalogues. This makes it very easy for us to exchange catalogues with a dozen or more institutions in different countries. I think Ron Eatwell said that Surrey's was available. SRO have just put theirs on sale. There is also the possibility of using on-line data bases in some form or other, and some people are inputting considerable amounts of data. At the moment these are regional systems and are not being made available to people in other regions or other parts of Europe. I have hoped that we will get to the stage when there is enough information in some of these data bases in Scandinavia and in Belgium to be worth trading them with one another to give a much wider access. Another possibility is some limited cooperation between two or three libraries on something like a periodicals checking system. Possibly IATUL members could become sufficiently cohesive to become a pressure to standardize on terminals and even on retrieval languages.

Hill: I think the only thing I could add to that is that if there is anybody who doesn't know what Euronet is, the European Commission has recently published an excellent pamphlet describing it. It is purely a tele-communications network with which most computers can be connected. They have already standardized what the terminals should be. They had to do this before they could set up the network. I don't think we could have much joy in getting them to change those standards, but they are pretty generous.

Mr. T.J. Tanzer: We are all living in a very difficult period in Europe because familiar communication systems are being taken out of circuit and the post offices are imposing their own systems with ubiquitous invoicing procedures and I was wondering if we shouldn't appoint someone to gather all the information on Euronet so that we would know.

Hill: If members would like it I would certainly be willing to undertake this. The possible value of Euronet to librarians other than feeding information services, is the possibility of linking in cataloguing. The British Library has recently joined in setting up a consortium known as Info-line. It is jointly British Library, Institution of Electrical Engineers, which is INSPEC, in effect, Chemical Society, which is United Kingdom Chemical Information Services, Department of Industry, and of last week, Derwent Publications, five partners, a consortium to mount data bases, so they can be on line in the United Kingdom and to be linked into Euronet and to be accessible as I understand it to any other country which, when it's going, can get access through telephone networks. One of the British Library inputs will be the MARC data base. So cataloguing data will be available through that.

Prof. A.J. Evans: One of the things which was suggested at one of the meetings we had on BLAISE, which is the MARC data base in the United Kingdom, was that it could well act as the nucleus for recording because people were asking for cataloguing data for recording, in fact, what they held. Consequently, you've got your basis for inter-library loan network.

The simple input of ISBN and a library number is all you want. This can be done nationally very, very easily; and linked internationally. A simple number structure basis could be linked into Euronet very happily, and give us the answer to a lot of problems, certainly on initial location.

Ross: Perhaps I could add to what Prof. Evans was saying. The BLAISE system to which he was referring, which is the British Library information system, developed in the UK and available for about the past month or so, offers the MEDLARS service and this year, about October, will be offering cataloguing service through the MARC data base. It is our intention as well, to build into that an automatic document request service such that a user of the system, if in using the system he identifies either a book he wants to borrow or an article he wants to photocopy, by pressing the right buttons, will initiate a request to the lending division which we will be able to act upon. That will have the

the very distinct advantage to us in that the request that we get will be very nicely printed out in the correct form and therefore legible, and secondly, will be bibliographically correct. Both these factors should help to both speed up the ability to provide an interlibrary loan, and possibly have some effect upon the cost.

Mr. A.C. Bubbs: Bob, just in the interest of completeness and perhaps for the benefit of non-British colleagues, I ought to point out that the Birmingham library's cooperative mechanization project which has been operational for some time, has a joint data base available in COM form. I realize there are both technical professional and even political links between this and the British Library, but it is a little ahead of BLAISE. What the future holds, I do not know, but that could already provide a common union catalogue for a group of libraries, for foreign libraries if they wish to have it.

Ross: The point I'd like to suggest regards several IATUL members who have a strong speciality in a certain area. It's worth other libraries having their COM catalogue, perhaps only to look for certain items in it. In a science reference library, we organize ourselves very much around subject specialists. There would perhaps be only 1 or 2 people who would look at an institution's catalogue. They are the people who deal, for example, with mining or undersea technology and they knew that certain places were most likely to have it. That might be a shortcut.

Chairman: I think that's an extremely useful comment. We looked at this, actually, on the IATUL Board some 4 or 5 years ago and I don't think we put enough effort into it.

Mr. G.A. Hamel: I'm pleased to learn that it has been brought up earlier on the IATUL Board. It would be very helpful to have one library per country as a referral center. I think it is one of the first things that has to be established in each country; at least one library specializing in technology, which knows what's going on where, and which makes an inventory of specialization of the various other technical universities, research institutes and libraries.

Mr. D. Russon: A further point about keeping in touch with the developments on Euronet. As far as anyone who lives in one of the member countries of the nine is concerned, there is a representative for that country, who is speaking for that country in the discussions concerning the development of Euronet. Those are the people to get hold of, for the latest information. As far the people outside the nine member states, Euronet News is probably as good a channel as any.

Hill: I merely want to add that I hope everybody does know who their national representative is. If anybody in the UK doesn't, it's John Guy or Clifford Nicholas.